Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

1-134. (Cancelled)

135.   (Currently amended): A method of predicting the receptor-modulating activity of a test compound when bound to a receptor, comprising the steps of:

(1)   (a)   providing an estrogen receptor;

(b)   optionally contacting said estrogen receptor with a plurality of reference compounds, said reference compounds known to modulate the biological activity of said estrogen receptor, and wherein the unliganded estrogen receptor or the binding of each reference compound to said estrogen receptor forms a reference conformation, said plurality of reference compounds selected from the group consisting of estradiol, estriol, nafoxidine, 4-OH tamoxifen, clomifene, premarin, raloxifene, ICI 182,780, 16α-OH estrone, and progesterone;

(c)   providing a panel comprising a plurality of members representing a plurality of classes selected from the group consisting of ERα/βI, ERα/βII, ERα/βIII, ERα/βIV, ERαI, ERαII, ERαIII, ER βI, ERβII, ERβIII, wherein said members of said panel possess differential ability to bind to said reference conformation;

(d)   contacting said reference conformation with said panel;

(e) measuring the effect of said reference compound on the binding of said panel members to said receptor, said measuring step forming a fingerprint for each member of said plurality of reference compounds;

(2)   (a) providing a test compound;

(b) contacting said estrogen receptor with said test compound, wherein the binding of said test compound to said estrogen receptor forms a test conformation;

(c) contacting said test conformation with said panel;

(d) measuring the effect of said test compound on the binding of said panel member; and

(3)   comparing the effect of said test compound on the binding of said panel member to said fingerprints to predict the receptor-modulating activity of said test compound when bound to said estrogen receptor.

136.   (Previously presented) The method of claim 135, wherein said fingerprint for each member of said plurality of reference compounds comprises a plurality of panel-based descriptors, each panel-based descriptor characterizing the effect of said reference compound on the binding of a particular panel member to said receptor, said panel-based descriptors collectively characterizing the effect of said reference compound on the binding of all the panel members, individually, to said receptor.

137.   (Currently amended) The method of claim 136, wherein said panel members are obtained provided by a method which comprises:

(a) providing at least one ligand for the receptor;

(b) screening a first combinatorial library comprising a plurality of members for the ability to bind to a the receptor in at least two different reference conformations; including at least one ligand-bound conformation, and

(c) based on said screening, providing a panel of first library members, said panel comprising members which differ with respect to their ability to binding to the receptor, depending on its conformation.

138.   (Previously presented) The method of claim 137, wherein a plurality of different ligands are used.

139.   (Previously presented) The method of claim 135, wherein said biological activity of said reference compounds at said receptor is known for a plurality of different tissues, so that the biological activity of said test compound in said tissues is predicted.

140-141. (Cancelled).

142.   (Previously presented) The method of claim 135, wherein said reference compound is a pharmacological agonist or antagonist of said receptor.

143.   (Previously presented) The method of claim 137, wherein said first combinatorial library is an oligopeptide library.

144.   (Previously presented) The method of claim 135, wherein said test compounds are provided and screened in the form of a combinatorial library.

145. (Previously presented) The method of claim 135, wherein said test compound comprises an organic compound with a molecular weight of less than 500 daltons.

146. (Previously presented) The method of claim 135, wherein said contacting steps are performed in vitro.

147. (Cancelled).

148. (Previously presented) The method of claim 135, wherein at least one panel member is a peptide comprising Leu-Xaa-Xaa-Leu-Leu wherein Xaa represents any amino acid.

149. (Previously presented) The method of claim 135, wherein at least one panel member has a substantially higher affinity for ERα than for ERβ, and at least one other panel member has a substantially higher affinity for ERβ than for ERα.

150. (Previously presented) The method of claim 135, wherein at least one panel member binds the receptor substantially more strongly when the receptor is bound to estradiol then when the receptor is not so bound.

151. (Previously presented) The method of claim 135, wherein at least one panel member binds the receptor substantially less strongly when the receptor is bound to estradiol when it is not so bound.

152. (Previously presented) The method of claim 135, wherein said panel comprises:

(1) at least one member with a substantilly higher affinity for ERβ than for ERα, whose affinity is substantially greater for estradiol-bound ER than for unliganded ER;

(2) at least one member with a substantially higher affinity for ERα than for ERβ, whose affinity is substantially the same for estradiol-bound ER and for unliganded ER;

(3) at least one member with a substantially higher affinity for ERα than for ERβ, whose affinity is higher for estradiol-bound ERα than for unliganded ERα, and substantially the same for estradiol-bound ERβ and unliganded ERβ;

(4) at least one member with a higher affinity for ERα than for ERβ, whose affinity is substantially lower for estradiol bound ERα than for unliganded ERα, and substantially the same for estradiol-bound ERβ and unliganded ERβ; and

(5) at least one member with a substantially higher affinity for ERβ than for ERα, and whose affinity is substantially lower for estradiol-bound ER than for unliganded ER.

153. (Previously presented) The method of claim 135, wherein said reference conformations include a plurality of conformations selected from the group consisting of unliganded receptor, estradiol-liganded receptor, 4-OH tamoxifen liganded receptor, estriol-liganded receptor, nafoxidene-liganded receptor, clomifene-liganded receptor,

premarin-liganded receptor, raloxifene-liganded receptor, ICI 182,780-liganded

receptor, 16α-OH estrone-liganded receptor, and progesterone-liganded receptor.

154. (Cancelled).

155. (Previously presented) The method of claim 135, wherein said method

distinguishes among 4-OH tamoxifen, nafoxidene, clomiphene, and raloxifene.

156. (Previously presented) The method of claim 135, wherein said

conformations comprise a first liganded conformation induced by a first ligand and a

second liganded conformation induced by a second and different ligand.

157. (Previously presented) The method of claim 135, wherein at least one

member of said panel is a Table 10 peptide, α/βI, α/βII, α/βIII, α/βIV, α/βV, αI, αII, αIII,

βI, βII, and βIII, or peptides having the same characterizing binding activity against

reference conformations of ER, and markedly identical to at least one of said Table 10

peptides.